PDT-11/150 SERIES

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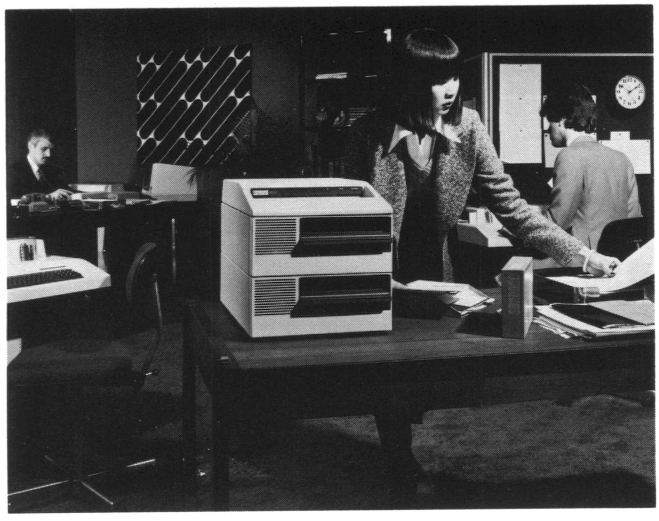
The PDT-11/150 series of systems are entry-level, user-programmable intelligent terminals with local disk storage. These systems combine the features of any DIGITAL hardcopy or video terminal with the power of a PDP-11 compatible processor. They provide up to 60K bytes of random access memory, an asynchronous and synchronous host communication port, and single or dual floppy disks that provide up to 512K bytes of mass storage. The floppy disks and intelligence modules are contained in a separate enclosure that complements the design of DIGITAL's terminals and can fit easily on an office desk, thus providing a compact and efficient workstation.



FEATURES

- PDP-11 code compatibility
- Powerful instruction set
- Up to 60K bytes of Random Access Memory
- Asynchronous/synchronous host communication port
- Operates on full-duplex synchronous or asynchronous communication lines
- Standard EIA interface
- Optional clustering of up to three additional workstations
- Built-in self-test diagnostics
- Ideal for network applications
- Up to 512K bytes of local mass storage space
- RT²/PDT run-time operating system

DESCRIPTION

PDT-11 programmable data terminals are DIGITAL's new family of PDP-11-based intelligent terminals. PDT-11/150 systems use the same instruction set as the PDP-11 family of minicomputers and execute a run-time version of the popular RT-11 operating system. Thus, many programs developed for the PDT-11/150 are capable of running on a variety of PDP-11 processors and vice versa. This software and instruction set compatibility provide the flexibility that is necessary for a growing business' needs.

Intelligent terminals are capable of relieving the host computer of many time-consuming tasks. The built-in LSI-11 microprocessor enables the PDT-11 family to perform local error checking of data. Consequently, error-free, preprocessed data is transmitted to the host computer, which greatly reduces communication costs and CPU overhead. Additionally, PDT-11/150 systems can support a local data base. This capability provides a user quick response in data entry applications, because the host computer does not have to be accessed.

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Built on the modular concept of the PDT-11 family, the PDT-11/150 combines an LSI-11 microprocessor with the display and features of any of DIGITAL's video or hardcopy terminals. In its entry-level configuration, the PDT-11/150 has three standard EIA ports for connection to a console terminal, a serial printer, and a modem for attachment to an asynchronous or synchronous communications line.

The PDT-11/150 features an interface port allowing the connection of any EIA RS-232 compatible printer. This feature can be used to connect a low cost, error free printer where hardcopy for archives or business forms is required. Optionally available are interface ports that enable the PDT-11/150 to cluster up to three additional workstations. This provision allows standard video or hardcopy terminals, such as DIGITAL's VT100 and LA36, to share the same intelligence as the PDT-11/150. These intelligent workstations also share the same communications line, which results in lower network support costs.

Modularity, reliability, networking capabilities, local mass storage, and supporting software comprise the necessary ingredients that allow the PDT-11/150 to be a useful tool in such areas as insurance claims processing, order entry, inventory control, and transportation billing and scheduling.

Network Capabilities

The PDT-11/150 meets the application needs of networks by providing such capabilities as inquiry/response, data capture, and local program execution. This environment allows a user to modify and implement application programs immediately throughout the network.

The PDT-11/150 does not limit development and application needs. A user has the flexibility of developing software to suit specific applications, modifying the DDCMP protocol, or supplying a specially designed protocol.

Floppy Disk Storage

The PDT-11/150 uses floppy disk media for local mass storage. These thin, flexible oxide-coated disks, similar in size to a 45-rpm phonograph record, are an ideal storage, interchange, and software distribution medium. The design of the floppy disk enables large amounts of data to be stored conveniently in a small space.

The simple mechanical construction of the floppy disk drive, and the use of a microprogrammed controller that reduces hardware complexity, contribute to the exceptional reliability of floppy disks. The read/write head contacts the disk only during operation. When the head is loaded on a given track, the medium can withstand over one million passes. Each recorded sector of the floppy disk includes a Cyclic Redundancy Check (CRC) character as part of the header field, and another CRC character as part of the data field. CRC characters are generated and checked when data is recorded, thus assuring data integrity.

Flexibility

The PDT-11/150 offers complete flexibility in the configuration of a floppy-based intelligent terminal system. It not only allows most terminals to share the power of the PDT-11/150, but provides a user with a broad selection of intelligence. This range is provided via three modular, field-upgradeable options—additional memory, an additional floppy disk, and the cluster controller. For most data entry and processing applications, the user has the flexibility of adding, upgrading, and improving the PDT-11/150 to meet changing application needs.

Choice of Terminals

The PDT-11/150 is not dependent on any specific terminal. Any existing, as well as any future character-interactive DIGITAL terminal may be connected to the PDT-11/150 via the simple EIA connector port. A user is provided with the option of using the VT100 video terminal (PDT-11/151), the 180 character per second LS120 hardcopy terminal (PDT-11/154), or the 30 character per second LA36 hardcopy terminal (PDT-11/155).

PDP-11 COMPATIBILITY

Supporting Software

The PDT-11/150 series use RT²/PDT software, a subset of the single-user, interactive operating system, RT-11. RT²/PDT provides a single job or foreground/background execute-only environment for applications that are developed on any RT-11 system. RT²/PDT can be developed on a wide range of PDP-11 minicomputers—from the microprocessor-based PDP-11/03 to the larger PDP-11/60 with cache memory. RT²/PDT applications can be developed in the MACRO-11, FORTRAN IV, or BASIC-11 languages. Once the application is developed, it is combined with RT²/PDT, transported via floppy diskette to the PDT-11/150, and is then ready to be booted. Thus, the user is provided with a turnkey load module that boots from the local mass storage device. This run-time only production system provides a high level of system security by preventing applications operators from modifying, or even accessing, program source or object code.

Instruction Set

The PDT-11/150 uses the same powerful instruction set as the popular PDP-11 family of minicomputers. PDP-11 instruction set compatibility provides a user with an upward migration path into the PDP-11 family without costly software development.

The combination of software and hardware compatibility means that a vast number of existing PDP-11 applications and software are directly applicable to the PDT-11/150. Programmers now working with PDP-11 minicomputers can apply their expertise to program development on the PDT-11/150 without costly retraining.

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